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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|-----------------------|---------------------|------------------|
| 09/654,718 | 09/05/2000 | Dominic Paul McCarthy | SAND-P003 | 7315 |

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| EXAMINER |
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OPIE, GEORGE L

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| ART UNIT | PAPER NUMBER |
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2126

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|-----------------|--|-----------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 09/654,718 | | McCarthy et al. | |
| | Examiner | | Art Unit | |
| | George L. Opie | | 2151 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ☐ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ☐ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ☐ is/are objected to.
- 8) ☒ Claim(s) 14-25 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ☐ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ☐ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) ☐.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- | | |
|--|--|
| 14) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 17) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). <input type="checkbox"/> . |
| 15) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 18) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 16) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <input type="checkbox"/> . | 19) <input checked="" type="checkbox"/> Other: Text Docs for USP5,754,781 USP4,980,824 |

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DETAILED ACTION

This Office Action is responsive to Applicant's election of claims 1-13 for examination. Claims 14-25, the nonelected claims have been withdrawn from consideration. Applicant should cancel by Amendment the nonelected claims, because unless cancelled, nonelected claims will be included in determining the fees due in connection with a subsequent Amendment.

1. Request for copy of Applicant's response on floppy disk:

Please help expedite the prosecution of this application by including, along with your amendment response in paper form, an electronic file copy in WordPerfect, Microsoft Word, or in ASCII text format on a 3½ inch IBM format floppy disk.

Please include all pending claims along with your responsive remarks. Only the paper copy will be entered -- your floppy disk file will be considered a duplicate copy. Signatures are not required on the disk copy. The floppy disk copy is not mandatory, however, it will help expedite the processing of your application. Your cooperation is appreciated.

2. The U.S. Patents used in the art rejections below have been provided as text documents which correspond to the U.S. Patents. The relevant portions of the text documents are cited according to page and line numbers in the art rejections below. For the convenience of Applicant, the cited sections are highlighted in the *text documents*. Consistent with Office procedure, the U.S. Patents corresponding to the *text documents* are also included with this action.

3. Claim Rejections - 35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 4-11 are rejected under 35 U.S.C. § 102(b) as being anticipated by Tulpule et al. (U.S. Patent 4,980,824).

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As to claim 4, Tulpule (p10 5-24) teaches a method of controlling system operation (precedence graph specifies the dependencies of each task) comprising the steps of:

sending a first command to a first component (task C to be performed by processor P3)

sending a second command to a second component (task E ... processor P1)

notifying said second component upon completion of said first command (step 216 is next executed in which data relating to the completion of the task [C] is transferred to processor [P1] dependent on completion of the task, p12 37-50)

initiating execution of said second command upon completion of said notifying step (signal to ... commencement of processor [P1] for task [E], p4 5-32).

As to claims 5-7, Tulpule's (pp7-9) teachings employ a microprocessor for executing a scheduler for stipulating that the sending a first command and sending a second command can occur in any order.

As to claim 8, Tulpule (p10 5-24) teaches a method controlling system operation (precedence graph specifies the dependencies of each task) comprising the steps of:

receiving a first command by a first component (task C to be performed by processor P3)

receiving a second command by a second component (task E ... processor P1)

performing said first command (completion of task C, p11 51 – p12 7)

notifying said second component upon completion of said performing step (data relating to the completion of the task [C] is transferred to processor [P1] dependent on completion of the task, p12 37-50) and

initiating said second command upon completion of said notifying step (commencement of processor [P1] for task [E], p4 5-32).

As to claims 9-11, see the discussion of claims 5-7 supra.

5. Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3 and 12-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tulpule et al. (U.S. Patent 4,980,824) in view of Kitta (U.S. Patent 5,754,781).

As to claim 1, Tulpule teaches a method for scheduling communication (timely and coherently provide required input data, p3 4-11) comprising the steps of:
sending a transfer command to a first component (interrupt to processor P2, p13 46-57)
transferring data from said first component to a second component (P2 ... transfers the necessary data to P1, Id.)
notifying a third component by said second component upon completion of said transferring data step (Processor P1 ... update the prerequisite tables ... for task J, Id.).
Tulpule does not explicitly disclose the transfer command limitations detailed below.

Kitta teaches the transfer command identifies said second and said third components (transfer instruction ... from cluster A to cluster B, p10 4-11). It would have been obvious to combine Kitta's teachings with Tulpule because the elaborate transfer instructions provide parameters for managing the reallocation of data to optimize the distributed computing system.

As to claim 2, Tulpule teaches the transfer command is sent by a schedule processor, p4 5-39.

As to claim 3, Tulpule (pp7-9) teaches the microprocessor executing program code.

As to claim 12, Tulpule teaches a method of controlling a system (timely and coherently provide required input data, p3 4-11) comprising the steps of:

constructing a transfer command by a scheduler (interrupt -- transfer, p13 46-57)

sending said transfer command to a first component (interrupt to processor P2)

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Tulpule does not explicitly disclose the transfer command addressing limitations.

Kitta teaches the transfer command identifies said second and said third components (transfer instruction ... from cluster A to cluster B, p10 4-11) and information on the component addresses for signaling the transfer, p8 29-35. It would have been obvious to combine Kitta's teachings with Tulpule because the elaborate transfer instructions provide parameters for managing the reallocation of data to optimize the distributed computing system.

As to claim 13, note the discussion of claim 3 supra.

7. The prior art of record and not relied upon is considered pertinent to the applicant's disclosure. Specifically, the below reference(s) will also have relevancy to one or more elements of the Applicant's claimed invention as follows:

U.S. Patent No. 5,644,749 to Obayashi which teaches the data transfer management for distributing work in a multiprocessor computing system.

8. Contact Information:

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system.

Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see
<http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

- ☐ All responses sent by U.S. Mail should be mailed to:
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

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- ☐ Hand-delivered responses should be brought to Crystal Park Two, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist). All hand-delivered responses will be handled and entered by the docketing personnel. Please do not hand deliver responses directly to the Examiner.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

All OFFICIAL faxes will be handled and entered by the docketing personnel. The date of entry will correspond to the actual FAX reception date unless that date is a Saturday, Sunday, or a Federal Holiday within the District of Columbia, in which case the official date of receipt will be the next business day. The application file will be promptly forwarded to the Examiner unless the application file must be sent to another area of the Office, e.g., Finance Division for fee charging, etc.

- ☐ Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist at **(703) 305-9600**.
- ☐ Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Opie at (703) 308-9120 or via e-mail at *George.Opie@uspto.gov*. Internet e-mail should not be used where sensitive data will be exchanged or where there exists a possibility that sensitive data could be identified unless there is an express waiver of the confidentiality requirements under 35 U.S.C. 122 by the Applicant. Sensitive data includes confidential information related to patent applications.



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